

## R E M A R K S

The Office Actions of July 21, 2004, and January 31, 2005, have been reviewed and the comments from the Office Actions and the interview held on Wednesday, April 6, 2005, have been carefully considered. Claims 1-45 and 50-58 are pending in the application. Claims 46-49 have been cancelled. Claims 34-41 have been withdrawn from consideration.

Claims 1-7, 9-27, 29, 42-50 and 53-58 were rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Stubbs et al., and Claims 1-7, 9-33, 42-50, and 53-58 were rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Samuelson et al. This rejection is respectfully traversed.

The claims rejected on this basis are directed to coating compositions, including powder compositions, comprising a film-forming resin and a plurality of particles. The difference between the refractive index of the resin and the refractive index of the particles is less than one. As a result of the particles, the coatings have enhanced scratch and/or mar resistance; this performance property is achieved without affecting the appearance or other mechanical properties of the coating.

The Office Action indicates that Stubbs discloses coated abrasives using polyurethane. Various abrasive particles are used in making the abrasives, including diamond, boron carbide, titanium carbide, silica, quartz, and silicon nitride, having a size of 0.1 to 1500 microns. Samuelson is cited as disclosing a polyurethane wheel made out of a composition comprising mica, molybdenum disulfide, abrasive grains, and polyurethane. The abrasive grains may comprise silicon carbide, aluminum carbide, diamonds, boron carbide, etc. The Office Action concludes that the disclosures of each reference render obvious the claimed invention.

Applicants respectfully disagree with the rejections and conclusions regarding the Stubbs and Samuelson references. Stubbs teaches an abrasive pad made by coating a foam substrate with a hot melt polyurethane and then embedding into the surface of the polyurethane abrasive particles. See Stubbs, col. 1, ll. 60-61 and col. 8, ll. 40-42. Samuelson teaches a cast polyurethane polishing wheel with abrasive particles distributed therein. There is no teaching in either Stubbs or Samuelson of a coating composition as recited in the present claims. Stubbs does not teach

particles that are dispersed in a resin. Dispersion of the particles in the composition of the present invention provides the uniform, superior appearance of a coating layer and ensures consistent mar resistance. Stubbs and Samuelson also use polyurethane, a resin known for its hardness, which may not require the addition of particles for mar resistance.

In addition, the references do not teach that the difference between the refractive index of the resin and the refractive index of the particles is less than one as recited in Claims 1-7, 9-27, 29, 42-45, 50 and 53-58. In contrast, the compositions of these claims, the resin and particles are carefully selected such that the difference in the respective indices of refraction is minimal; i.e., less than 1. This is in order to minimize haziness of the applied coating. The references are deficient in all these aspects because they do not contemplate coating compositions. Thus, there can be no appreciation in either reference for the performance and appearance characteristics of coating compositions.

Claims 10-12 were rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Stubbs et al. or Samuelson et al. in view of Monroe et al. Monroe is cited for teaching the use of alpha alumina. During the interview of April 6, 2005, the Examiner stated the opinion that it would be reasonable to modify the teachings of either primary reference with the teachings of Monroe. Applicants respectfully point out, as discussed in the interview, that even if one were to modify the teachings of either primary reference with the teachings of Monroe, one would not arrive at the coating composition of the present invention. Monroe discloses ceramic abrasive grains specifically designed to improve the grinding performance of abrasive sheets and wheels. There is no teaching or suggestion in Monroe of coating compositions such as those presently claimed, or the use of the abrasive grains in any compositions other than abrasive sheets and wheels. There is no appreciation in Monroe of the appearance and performance properties of the coatings currently claimed.

Claim 8 was rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Stubbs et al. or Samuelson et al. in view of Diener et al. Diener is cited as teaching use of silica. Diener discloses coated silica particles for use as

fillers in a polymer matrix. The polymer matrix is specifically used as a printed circuit board substrate. There is no motivation in any of the references to modify the teachings of either primary reference, which are directed toward abrasives, with the teachings of Diener, drawn to fillers for printed circuit board substrates. Moreover, even if one were to modify the teachings of either primary reference with the teachings of Diener, one would not arrive at the coating composition of the present invention. There is no teaching or suggestion of coating compositions in Diener such as those presently claimed, and there is no appreciation in Diener of the appearance and performance properties of the coatings currently claimed.

Claims 51 and 52 were rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Ono et al. Ono is cited as disclosing a powder coating composition comprising an epoxy resin, a curing agent and a mixture of aluminum hydroxide and silica. Although the Office Action concedes that Ono does not explicitly disclose the claimed particle size and amounts, the Office Action concludes that it would have been obvious to vary these two parameters as needed to achieve the desired product and arrive at the claimed invention.

Applicants respectfully disagree with the rejection and conclusions regarding Claims 51 and 52. Applicants pointed out during the interview that aluminum hydroxide is not the same as alumina, as is recited in Claims 51 and 56. The Examiner asserted that alumina can be reacted with water to yield aluminum hydroxide. One skilled in the art would not regard the two as interchangeable. Moreover, at col. 3, lines 15-18, Ono clearly indicates that if the level of aluminum hydroxide is below 8 parts, the resulting cured layer cannot withstand high voltage such as arc current. Thus, Ono teaches away from using less than 8 percent by weight. Therefore, it would not have been obvious to vary the type and amount of particles used in Ono to arrive at the present invention.

For the reasons given above, it is respectfully submitted that the present claims are allowable over all of the prior art of record. A Notice of Allowance is respectfully requested at an early date.

Respectfully submitted,

KRISANNE SHIDELER  
Registration No. 36,272  
Agent for Applicant

  
Telephone: (724) 934-5450  
Facsimile: (724) 934-5461

Pittsburgh, Pennsylvania  
April 27, 2005